

113-SIG-3009
Configure a Tunneling Protocol to Enable Site-to-Site Communication
Status: Approved

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the US Army Signal School and FG foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Condition: You have decided to implement VPNs for security, network access ease, and cost savings. This allows customers and employees to be able to access the main network from any location. You have 3 Cisco Routers (With Cisco IOS release 15.2(4)M3 universal image or comparable), 2 Cisco Switches (With Cisco IOS release 15.0(Z) lanbaseK9 image or comparable), 2 PCs (Windows 7, Vista, or XP with terminal emulation software), 1 console cable, 4 ethernet straight-thru cables, 2 serial DCE/DTE cables .

Standard: Configures tunneling protocol and establish site-to-site communication.

Special Condition: None

Safety Risk: Low

MOPP 4:

Task Statements

Cue: None

DANGER

None

WARNING

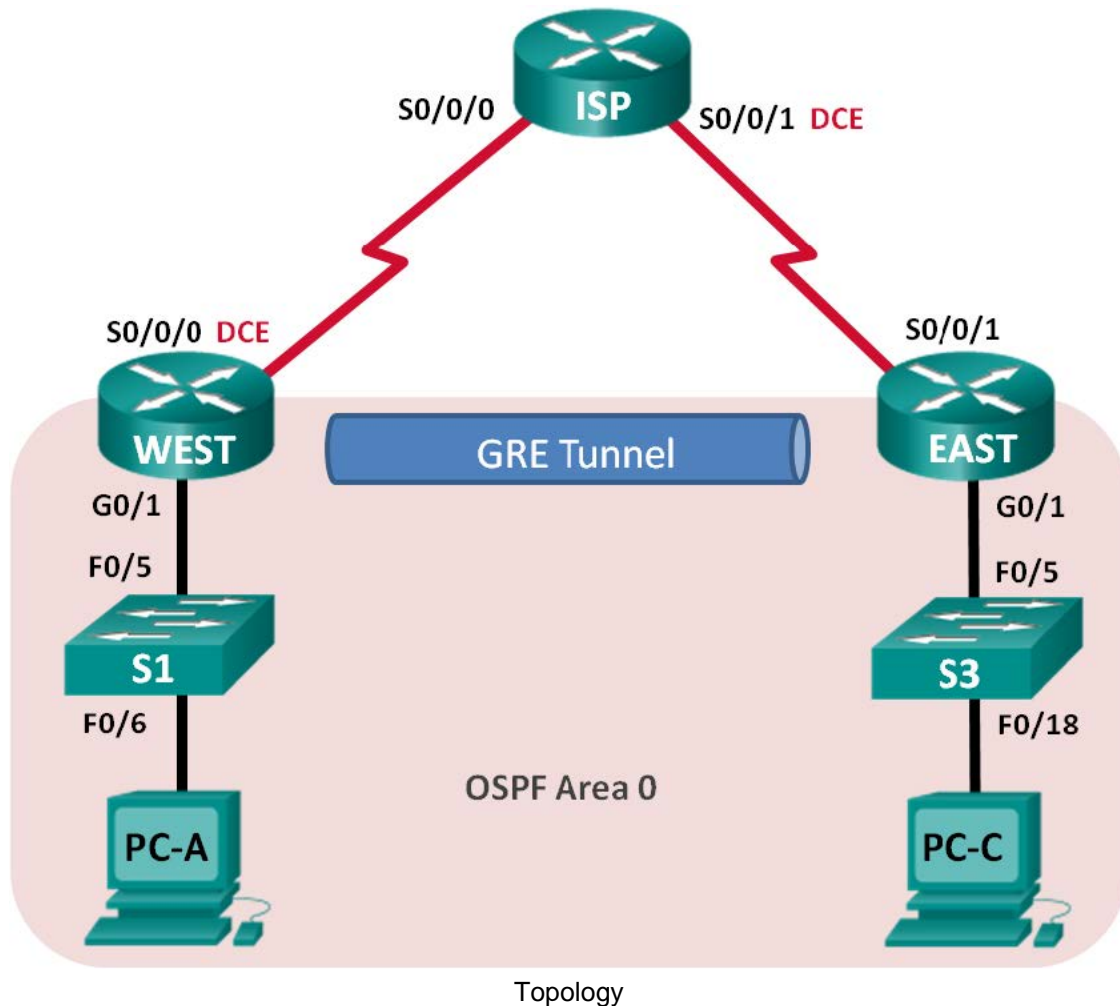
None

CAUTION

None

Remarks: None

Notes: All required references and technical manuals will be provided by the local Command via Cisco Networking Academy at www.netacad.com.



Performance Steps

1. Configure Basic Device Settings, set up the network topology and configure basic router settings, such as the interface IP addresses, routing, device access, and passwords.
2. Cable the network as shown in the topology.
3. Initialize and reload the routers and switches.
4. Configure default routes to the ISP router, WEST(config)# ip route 0.0.0.0 0.0.0.0 10.1.1.2, EAST(config)# ip route 0.0.0.0 0.0.0.0 10.2.2.2.
5. Assign IP addresses and default gateways to the PCs according to given Addressing Table.
6. Verify connectivity, NOTE: At this point, the PCs are unable to ping each other. Each PC should be able to ping its default gateway. The routers are able to ping the serial interfaces of the other routers in the topology. If not, troubleshoot until you can verify connectivity.
7. Configure the tunnel interface on the WEST router. Use S0/0/0 on WEST as the tunnel source interface and 10.2.2.1 as the tunnel destination on the EAST router.
 - a. WEST(config)# interface tunnel 0.
 - b. WEST(config-if)# ip address 172.16.12.1 255.255.255.252, tunnel source s0/0/0, tunnel destination 10.2.2.1.

8. Configure the tunnel interface on the EAST router. Use S0/0/1 on EAST as the tunnel source interface and 10.1.1.1 as the tunnel destination on the WEST router.

a. EAST(config)# interface tunnel 0.

b. EAST(config-if)# ip address 172.16.12.2 255.255.255.252, tunnel source 10.2.2.1, tunnel destination 10.1.1.1

Note: For the tunnel source command, either the interface name or the IP address can be used as the source.

9. Verify tunnel interface, show ip interface brief and show interface tunnel, WEST# show ip interface brief, EAST# show ip interface brief.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: Score the Soldier GO if all steps are passed (P). Score the Soldier NO GO if any step is failed (F). If the Soldier fails any step, show what was done wrong and how to do it correctly.

Evaluation Preparation: Ensure that the equipment is available, serviceable, and ready for use. Use the reference and evaluation guide to score the Soldier's performance. Brief Soldier: Tell the Soldier what is required IAW the task condition and standards.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Configured basic device settings, set up the network topology and configure basic router settings, such as the interface IP addresses, routing, device access, and passwords.			
2. Cabled the network as shown in the topology.			
3. Initialized and reloaded the routers and switches.			
4. Configured default routes to the ISP router, WEST(config)# ip route 0.0.0.0 0.0.0.0 10.1.1.2, EAST(config)# ip route 0.0.0.0 0.0.0.0 10.2.2.2.			
5. Assigned IP addresses and default gateways to the PCs according to given Addressing Table.			
6. Verified connectivity, NOTE: At this point, the PCs are unable to ping each other. Each PC should be able to ping its default gateway. The routers are able to ping the serial interfaces of the other routers in the topology. If not, troubleshoot until you can verify connectivity.			
7. Configured the tunnel interface on the WEST router. Used S0/0/0 on WEST as the tunnel source interface and 10.2.2.1 as the tunnel destination on the EAST router.			
8. Configured the tunnel interface on the EAST router. Used S0/0/1 on EAST as the tunnel source interface and 10.1.1.1 as the tunnel destination on the WEST router.			
9. Verified tunnel interface, show ip interface brief and show interface tunnel, WEST# show ip interface brief, EAST# show ip interface brief.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	ISBN: 9781587058820	Implementing Cisco IP Routing (ROUTE) Foundation Learning Guide: Foundation learning for the ROUTE 642-902 Exam (Foundation Learning Guides)	No	No

TADSS : None

Equipment Items (LIN): None

Materiel Items (NSN) :

Step ID	NSN	LIN	Title	Qty
	7025-01-581-2387	05004N	Cisco Integrated Router Gen 2: CISCO 2901/K9	3
	5895-01-539-4546	FA9516	Catalyst 2960 24 PT	2

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card.

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

Prerequisite Individual Tasks : None

Supporting Individual Tasks : None

Supported Individual Tasks : None

Supported Collective Tasks :

Task Number	Title	Proponent	Status
11-5-7022(Step: 3.)	Establish a High Capacity Line-of-Sight (HCLOS) Radio Terminal AN/TRC-190(V)	11 - Signal (Collective)	Approved

ICTL Data :

ICTL Title	Personnel Type	MOS Data
MOS 25U Signal Support Systems Specialist Skill Levels 1, 2, 3, and 4	Enlisted	MOS: 25U
MOS 25Q Multichannel Transmission Systems Operator-Maintainer Skill Levels 1, 2, and 3	Enlisted	MOS: 25Q
MOS 25C Radio Operator-Maintainer Skill Levels 1, 2, and 3	Enlisted	MOS: 25C
MOS 25N Nodal Network Systems Operator-Maintainer Skill Levels 1, 2, and 3	Enlisted	MOS: 25N

MOS 25B Information Technology Specialist Skill Levels 1, 2, 3, 4 and 5	Enlisted	MOS: 25B
MOS 25L Cable Systems Installer- Maintainer Skill Levels 1, 2, and 3	Enlisted	MOS: 25L